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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/784,499

02/15/2001

Srinivas V. Makam

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07/19/2004

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EXAMINER

VOLPER, THOMAS E

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 07/19/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/784,499

Applicant(s)

MAKAM ET AL.

Examiner

Thomas Volper

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moy et al. (US 2003/0035411) in view of Sandstrom (US 6,697,373).

Regarding claims 1 and 14, Moy discloses an optical transport network (OTN) that includes a plurality of transport network devices (TNDs) that may comprise optical cross-connects (OXC)s and add/drop multiplexers (ADM)s (paragraph [0048]). Moy also discloses that dynamic bandwidth provisioning on OTNs is possible through the use of network management control systems (paragraph [0005]). Moy discloses that an optical trail is a connection between two interfaced user devices (IUDs) that includes two TNDs connected to the IUDs on either side of the connection (paragraph [0056]). The two TNDs meet the limitations of the first and second switching circuits of the present invention. An IUD (14) may send a trail creation signal to TND (46), which in turn is sent to TND (48) (paragraph [0104]). This meets the limitation of a network management system issuing a connection create request and sending this request to the first switching circuit. The size of the connection to be created is indicated in the trail creation signal (paragraph [0110]), which indicates the resources that need to be reserved. Moy discloses that optical trail signals may be transmitted in accordance with an

Art Unit: 2665

extension to known protocols such as Resource Reservation Setup Protocol (RSVP) (paragraph [0102]). RSVP is well known in the art to include Path Messages to setup a connection, thus Moy also discloses the transmission of a trail creation signal from the first switching circuit to the second switching circuit using a path setup message. Moy discloses that a user device may be configured to send out a modification signal requesting the modification of the bandwidth characteristic of an existing optical trail (paragraph [00152]). Moy fails to expressly disclose the reservation of virtual concatenated resources in modifying an existing connection. Sandstrom discloses the dynamic adjustment of SDH/SONET connections by adding or removing the paths formed of virtual-concatenated paths (col. 2, lines 59-65). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to dynamically adjust the bandwidth of the optical trails in the invention of Moy by adding or removing virtual-concatenated paths. One of ordinary skill in the art would have been motivated to do this in order to transport the packets as efficiently as possible in terms of the required bandwidth.

Regarding claims 2, 3, 15 and 16, Moy discloses that the TNDs may be ADMs or OXCs, wherein a TND is capable of converting between optical and electrical signals, processing electrical signals, and converting between electrical and optical signals (paragraph [0048]).

Regarding claims 4 and 17, Moy discloses that the OTN may be a SONET or SDH network (paragraph [0045]).

Regarding claims 5 and 18, Moy discloses that the signaling protocol may be carried out-of-band (paragraph [0123]).

Regarding claims 6, 7, 19 and 20, Moy discloses using the RSVP signaling protocol (paragraph [0102]).

Regarding claims 8 and 21, Moy in view of Sandstrom fails to expressly disclose first and second acknowledge messages. However, Moy does disclose using RSVP (paragraph [0102]), which is well known in the art to use acknowledge messages to verify communications. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to send an acknowledgement after receiving the trail creation signal in the invention of Moy. One of ordinary skill in the art would have been motivated to do this in order to verify that the signal was received.

Regarding claims 9 and 22, Moy discloses that the transport network controller, which is a TND, may notify the requesting device that an optical trail has been created (paragraph [0144]).

Regarding claims 10, 11, 23 and 24, Moy discloses specifying the size of a connection by using STS-1 as a metric (paragraph [0110]). As is well known in the art, the STS-1 data structure comprises virtual tributaries (VTs). Also, Moy discloses that the bandwidth of a connection may be modified so as to increase the bandwidth capacity (paragraph [0152]), which translates to a multiple of STS-1.

Regarding claims 12 and 25, Moy fails to expressly disclose that the switching circuits comprise buffers for accommodating differential delays in data processing. Sandstrom discloses packet terminals (PTs) that operate as ADMs and comprise buffers for switching traffic of different traffic priority classes (col. 6, line 30 – col. 7, line 28). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include buffers in the TNDs of the invention of Moy. One of ordinary

Art Unit: 2665

skill in the art would have been motivated to do this in order to process data of a connection of a higher priority class while holding data for a connection of lower priority.

Regarding claims 13 and 26, Moy discloses that the trail creation signal may include a group ID and group position (paragraphs [0106]-[0107]; see also Figure 7).

### *Conclusion*

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Goodman et al. (US 6,636,529) Semi Transparent Tributary for Synchronous Transmission

- Turban (US 6,700,900) Transport of Concatenated Containers in a Synchronous Information Transmission Network

- Ferguson (US 2002/0041604) SDH Multiplexer with AIM Facilities

4. Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and fax number is 703-746-9467. The examiner can normally be reached between 8:30am and 6:00pm M-F.

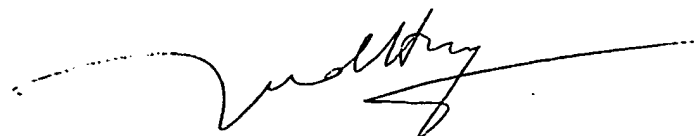
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached at 703-308-6602. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Art Unit: 2665

Thomas E. Volper



July 9, 2004



HUY D. VU  
SUPERVISORY PATENT EXAMINER  
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